

Legislative Review on the Use of Cell Phones While Driving August, 2006

James M. DeCarli, MPH, MPA, CHES
(213) 351-7888 jdecarli@ladhs.org

Injury & Violence Prevention Program, Los Angeles County, Department of Public Health

EXECUTIVE SUMMARY

Background/Issue: Overall studies have shown that the use of a hand-held cell phone while driving is becoming more common on the road. Most importantly, it has been found to be a contributing factor of motor vehicle collisions due to driver inattention. While the use of hands-free cell phones allow a driver to maintain both hands on the steering wheel and therefore more in control of the vehicle, simulator studies have shown that driver inattention is the bigger problem, resulting in a similar risk of using a hand held cell phone while operating a vehicle.

Recommendation: While the proposed Senate Bill 1613 will prohibit the use of hand-held cell phones while driving, to date, studies have not provided sufficient evidence either for or against prohibiting the use of hand-held cell phones while driving. In support of this bill however, it would provide the public health community with a mechanism to provide education to the public on the new law, in addition to the risks of using a cell phone while driving, and other driving distractions. A report from the California Highway Patrol suggests that “education should be a key component to any effort to reduce the risk of traffic collisions resulting from cellular telephone use and could prove more effective than sanctions” (CHP, 1997).

- Driver distraction is a contributing factor in 20-30% of vehicle collisions, totaling 1.2 million collisions (NCSL, 2005) and responsible for approximately \$40 billion in damages (Lee, 2002) See Table 1)
- The increase use of wireless phones has gained public attention as a driver distraction compared to other driving distractions (Table 2).
- It is estimated that 44-54% of drivers who use cell phones, talk on a cell phone while driving (Harris, 2002; NHTSA, 2005; Blue Cross, 2001).
- Epidemiological studies suggest an association between cell phone use and an increased risk of motor vehicle collision (Table 3).
- Driver’s experience, age, driving conditions, and automatic versus non-automatic driving tasks are contributing factors that influence cell phone use risks while driving (Table 4).
- Experimental studies also suggest that cell phone use, including hands-free conversation, interferes with or degrades both “real” and simulated driving tasks (Table 5).
- Hands-free cell phones were designed to reduce or eliminate the physical distraction caused by handling the phone while driving (Wheatley, 2000). However studies have concluded that the use of a hands-free cell phone while driving is no safer than using a hand-held cell phone (Table 3).
- To date only a few states prohibit the use of hand-held cell phones while driving and limited data exist, suggesting hand-held cell phone bans are shown to improve safety (NCSL, 2005).
- The Insurance Institute for Highway Safety found that 2.3% of drivers in New York used hand-held cell phones while driving prior to the law, compared to 1.1% of drivers using hand-held cell phones while driving, following the new law. When publicity of the new law decreased, compliance also decreased (IIHS, 2002).

Legislative Review on the Use of Cell Phones While Driving August, 2006

James M. DeCarli, MPH, MPA, CHES
(213) 351-7846 jdecarli@ladhs.org

Injury & Violence Prevention Program, Los Angeles County, Department of Public Health

BACKGROUND

Driver distraction is well recognized as a contributing factor to vehicle collisions. Each year in the United States 42,000 people are killed and more than 3 million are injured in more than 6 million vehicle crashes. Driver distraction is a contributing factor in 20-30% of these vehicle collisions, totaling 1.2 million collisions.ⁱ The most common type of motor vehicle collisions due to cell phone use while driving, include rear-end and right angle (turn) intersection crossing (Table 1). Driver distraction has been found to be responsible for approximately \$40 billion in damages.ⁱⁱ Driver distraction, as defined by the American Automobile Association, is “when a driver is delayed in the recognition of information needed to safely accomplish the driving task because of some event, activity, object or person within or outside the vehicle compelled or tended to induce the driver’s shifting attention away from the driving task”.ⁱⁱⁱ

The National Highway Traffic Safety Administration (NHTSA) identifies four forms of driver distraction:

- Visual: Occurs when the driver neglects to look at the road and instead focuses his/her attention on another visual target for a period of time.
- Auditory: Occurs when the driver focuses their attention on auditory signals rather than on the road environment.
- Biomechanical: Occurs when the driver removes one or both hands from the steering wheel to physically manipulate an object.
- Cognitive: Occurs when the driver’s thoughts absorb the driver’s attention to the point where they are unable to navigate through the road network safely.

Driver distraction has always been a traffic safety concern ranging from a nearly limitless number of events, activities, and objects from both inside and outside of the vehicle. These distractions include children and pets, emotionally driven conversations, listening to or tuning music in the vehicle, interesting billboards, eating and drinking, to personal grooming, while driving. But most recently, with the rapid growth of wireless technologies, wireless phones have been gaining attention as a potential driver distraction.

Between 1995 and 2005 the number of wireless telephone subscribers have increased more than 600%, with more than 190 million people using wireless services compared to only 30 million 10 years ago in the United States.^{iv} The increased use of cell phones has raised concern over the safety of use while driving a vehicle. However, estimates of cell phone use while driving vary. The Advocates for Highway and Auto Safety indicated that two out of three adult Americans own a cell phone and just less than 50% report using the cell phone while driving^v and the National Highway Transportation Safety Administration found that 54% of drivers reported having a cell phone in their vehicle with ¾ of these talking on the cell phone while driving^{vi}. Further, insurance companies have also reported an estimated 44% of drivers reported talking on their cell phones while driving^{vii}, one in five drivers were found to have used a cell phone while driving within the past seven days^{viii}

REVIEW OF CELL PHONE USE WHILE DRIVING

Research on the use of cell phones while driving a vehicle includes experimental and epidemiological study designs. Experimental studies suggest that cell phone use, including hands free conversation, interferes with or degrades both “real” and simulated driving.^{ix} These experimental studies suggest a potential danger of cell phone use due to degradation of driving task (Table 5). Epidemiological studies have also suggested an association between cell phone use with an increased risk of collision (Table 3). However these demonstrate an association, but not a causal relationship between cell phone use while driving and collision risk. Various confounders also contribute to the outcomes of epidemiological studies (Table 4). These include driver’s experience and age, driving conditions, and automatic versus non-automatic driving tasks. One of the most significant findings under driving conditions suggested using a cell phone while driving interrupted driving performance under difficult conditions compared to normal conditions (i.e. rainy versus mild weather or an area where school children are present).

Hands free cell phones were designed to reduce or possibly eliminate the physical distraction caused by handling the phone while driving.^x However studies have concluded that the use of a hands free cell phone while driving is no safer than using a hand held cell phone (Table 3).^{xi}

LEGISLATIVE ACTION ON CELL PHONE USE WHILE DRIVING

As many as 40 countries have either restricted or prohibited the use of cell phones while driving.^{xii} Most of these countries prohibit the use of hand held cell phones while driving. Some countries such as Czech Republic, France, the Netherlands and the United Kingdom fine drivers if they have been involved in a vehicle collision while on a cell phone. Drivers in Germany and the United Kingdom can lose insurance coverage for similar collisions.

As of June 30, 2005, the federal government has not acted on the distracted driving issue. Senate Bill 179 was proposed, but failed in the Senate Committee on Environment and Public Works. Several federal agencies however have recommended improvements in driver education. For example, the National Transportation Safety Board (NTSB) concluded that the public may not be aware of the risks associated with using a cell phone while driving. The NTSB recommends that drivers be educated on the risks of distracted driving, including the cognitive demands associated with the use of interactive communication devices, including cell phones and on-board navigational systems.^{xiii} As per this recommendation a policy recommendation was placed on the NHTSA’s website in June 2005, warning drivers of the potential cell phone risk while driving. This policy statement indicates “...the primary responsibility of the driver is to operate a motor vehicle safely. The task of driving requires full attention and focus. Cell phone use can distract drivers from this task, risking harm to themselves and others. Therefore, the safe course of action is to refrain from using a cell phone while driving.”^{xiv}

At the local level, many counties and cities across the United States have restrictions on cell phone use while driving. State governments, such as Florida, Illinois, Massachusetts, New Jersey, New Mexico, New

- | | |
|---------------------------|----------------------------|
| • Miami-Dade County, Fla. | • Nassau County, N.Y. |
| • Pembroke Pines, Fla. | • Suffolk County, N.Y. |
| • Westin, Fla. | • Westchester County, N.Y. |
| • Chicago, Ill. | • Brooklyn, Ohio |
| • Brookline, Mass. | • North Olmstead, Ohio |
| • Santa Fe, N.M. | • Walton Hills, Ohio |
| • Bloomfield, N.J. | • Conshohocken, Pa. |
| • Carteret, N.J. | • Hilltown Township, Pa. |
| • Hazlet, N.J. | • Lebanon, Pa. |
| • Irvington, N.J. | • Lower Chichester, Pa. |
| • Marlboro, N.J. | • West Conshohocken, Pa. |
| • Nutley, N.J. | • York, Pa. |
| • Paramus, N.J. | • Sandy, Utah |

Figure 1: Local ordinances that restrict the use of cell phones while driving.

York, Ohio, Pennsylvania, and Utah, have enacted restrictions on cell phone use, primarily hand-held devices. At the local level, 26-jurisdictions have passed ordinances to restrict cell phone use while driving public (Figure 1). While these agencies have enacted cell phone restrictions, currently many are not being enforced. In addition many new State laws have superseded these local ordinances.

ENFORCEMENT AND EFFECTIVENESS

According to a 2005 report by the National Conference of State Legislators, to date only a few states prohibit the use of hand-held cell phones while driving and limited data exist, suggesting hand-held cell phone bans are shown to improve safety.^{xv} One such study in March 2003 by the Insurance Institute for Highway Safety found that 2.3% of drivers in New York used hand-held cell phones while driving prior to the commencement of the law, compared to 1.1% of drivers using hand-held cell phones while driving, following the new law. However this study also showed that as the publicity of the new law decreased, compliance also decreased.^{xvi}

While a hands-free cell phone may eliminate the search for a ringing cell phone or allow a driver to voice dial a number instead of hand dialing a hand-set cell phone, many studies have confirmed that in-vehicle devices (voice/speech recognition) or hand-held cell phones, that are designed to improve safety while driving, do not eliminate driver distraction (Table 3).

DISCUSSION/SUMMARY

Overall studies have shown that the use of a hand held cell phone while driving is becoming more common on the roads. Most importantly, it is also a contributing factor of motor vehicle collisions due to driver inattention. While the use of hands free cell phones allow a driver to maintain both hand on the steering wheel and control the vehicle, simulator studies have shown that the driver inattention is the problem, resulting in a similar risk of using a hand held cell phone while driving.

While the proposed Senate Bill 1613 will prohibit the use a hand held cell phone while driving, studies have not confirmed that this will be any safer than with a hands free cell phone while driving. Studies have also not shown that by prohibiting the use of a hand held cell phone while driving would result in a negative health impact. In support of this bill however, it would provide the public health community with a mechanism to provide education to the public on not only the new law, but also the risks of using a cell phone while driving, as well as other driving distractions. Whereas in 1997 a report from the California Highway Patrol suggests that “education should be a key component to any effort to reduced the risk of traffic collisions resulting from cellular telephone use and could prove more effective than sanctions”.^{xvii}

ⁱ National Conference of State Legislatures, Cell phones and highway safety: 2005 State legislative update, August 2005

ⁱⁱ Dr. John Lee, cited in National conference of State Legislatures, Along for the ride: reducing driver distraction (Denver, Colorado: National Conference of State Legislatures, 2002

ⁱⁱⁱ Stutts, JC, et al, The Role of driver distraction in traffic crashes. Chapel Hill, N.C.: University of North Carolina Highway Safety Research Center, prepared for AAA Foundation for Traffic Safety, May 2001

^{iv} Cellular Telecommunications and Internet Association

^v Harris, L. The fourth survey of attitudes of the American people on highway and auto safety, Advocates for Highway and Auto Safety, Washington , D.C., 2001

^{vi} National Highway Traffic Safety Administration, 2005

^{vii} Blue Cross/Blue Shield, 2001

^{viii} Beirness, et al, The Road Safety monitor, Driver distraction, Traffic Injury Research Foundation, Ottawa, Ontario, Canada, 2002

^{ix} Goodman, MJ, et al.. Using cellular phones in vehicles: safe or unsafe? Transportation Hum. Factors, Vol 1, pp. 3-42.

^x Wheatley, et al 2000

-
- ^{xi} McEvoy, S. et al, 2005; Mathews et al, 2003; Strayer & Johnston, 2001; Haigney, Taylor & Westerman, 2000; Redelmeier & Tibshirani, 1997
- ^{xii} Cellular News, [Http://www.cellular-news.com/car_bans/](http://www.cellular-news.com/car_bans/)
- ^{xiii} National Transportation Safety Board, Ford Explorer Sport Collision with Ford Windstar Minivan and Jeep Grand Cherokee on Interstate 95/495 Near Largo Maryland. February 1, 2002 (Washington D.C. NTSB, 2003).
- ^{xiv} <http://www.nhtsa.dot.gov>
- ^{xv} National Conference of State Legislatures, Cell phones and highway safety: 2005 State legislative update, August 2005
- ^{xvi} Insurance Institute for Highway Safety. Status Report. 37 no. 7 (Aug. 17, 2002).
- ^{xvii} Department of California Highway Patrol Office of Research and Planning. Effects of cellular telephone use on driver behavior, Sacramento, Calif: September 1997